

## ABSTRACT OF THE DISCLOSURE

A method for determining the activity of a cell cycle regulatory factor comprising the steps of:

- 5 preparing a sample for measuring a cyclin-dependent kinase/cyclin complex from living cells;
- reacting adenosine 5'-O-(3-thiotriphosphate) (ATP- $\gamma$  S) with a substrate for the cyclin-dependent kinase in presence of the sample in order to introduce a monothiophosphate group into a serine or threonine residue of the substrate;
- 10 labeling the substrate by coupling a labeling fluorophore or a labeling enzyme with a sulfur atom of the introduced monothiophosphate group;
- measuring the amount of fluorescence from the labeling fluorophore labeling the substrate, or reacting the
- 15 labeling enzyme labeling the substrate with a substance which generates an optically detectable product by reaction with the labeling enzyme and optically measuring the amount of the generated product; and
- calculating the activity of the cyclin-dependent kinase
- 20 from the measured amount of fluorescence or the measured amount of the generated product with reference to a pre-produced reference curve.